World's 25 Most Endangered Primate Species - *Summary for South Asia*

Long before its formal release we were permitted to leak the news of the 5th iteration of PSG and IPS (Primate Specialist Group and International Primatological Society) dramatic public awareness project, **Primates in Peril: The World's 25 Most Endangered Primates which can be found in** Primate Conservation 2009 (24): 1-57 2008-2010. We did so in the December 2009 Vol. XXIV, Number 12 issue of ZOOS' PRINT and now we are back with more detail as the book about these 25 MEPS has been released with great fanfare at the Bristol Zoological Gardens in UK.

It is authored by Russell A. Mittermeier, Janette Wallis, Anthony B. Rylands, Jörg U. Ganzhorn, John F. Oates, Elizabeth A. Williamson, Erwin Palacios, Eckhard W. Heymann, M. Cecília M. Kierulff, Long Yongcheng, Jatna Supriatna, Christian Roos, Sally Walker, Liliana Cortés-Ortiz, and Christoph Schwitzer with contributions from more than 100 primate biologists or enthusiasts (or maybe I am the only enthusiast… most of these people are dedicate primate researchers. The first such list was begun in 2000 by PSG SSC IUCN and Conservation International CI, and later reviewed and updated at the 2002 meeting of IPS in Bejing, with the advantage of being endorsed by such a large body of primate scholars. Subsequent iterations were done in 2004 at Torina, Italy, a fourth at IPS in Entebbe, Uganda and this one, again in Edinburgh.

The top 25 do not always reflect their status on the IUCN Red List or in other list. This is because a different criteria is used to select … it is a very practical method which permits species which have special problems in their ranger or biology to get the attention they need and those interested in protecting them get the warning they require to get into action. As Russ Mittermeier says in the introduction, "we hope it will be effective in drawing attention to the plight of each and in garnering support for the appropriate concern and action by those who can contribute to saving them. This report (the 2008-2010 list) consists of five species from Madagascar, six from Africa, 11 from Asia, and three from the Neotropics - five lemurs, a galago and the recently described kipunji from Tanzania, two red colobus monkeys, the roloway monkey, a tarsier, a slow loris from Java, four langurs (the pig-tailed langur from Indonesia, two so-called karst species from Vietnam, and the purple-faced langur from Sri Lanka), the Tonkin snub-nosed langur and the gray-shanked douc, both from Vietnam, the cotton-top tamarin and the variegated spider monkey from Colombia (the latter also from Venezuela), the Peruvian yellow-tailed woolly monkey, two gibbons (one from China / Vietnam, the other from India, Bangladesh and Myanmar) and two of the great apes (the Sumatran orangutan and the Cross River gorilla from Nigeria and Cameroon).

Modifications in the listing is not usually a happy affair, as some species are dropped not because their situation has improved but because other threatened species urgently need attention also. So this list is a way of keeping truly troubled primates in the public eye from time to time.

The eleven species from Asia are listed below with a very brief discussion of each one and its individual problem(s):

Asia
Tarsius tumpara (Siau Island tarsier) Indonesia (Siau Is.)
Nycticebus javanicus (Javan slow loris) Indonesia (Java)
Simias concolor (Pig-tailed langur) Indonesia (Mentawai Is.)
Trachypithecus delacouri (Delacour's langur) Vietnam
Trachypithecus p. poliocephalus (Golden-headed or Cat Ba Langur) Vietnam
***Semnopithecus vetulus nestor* (Western purple-faced langur) Sri Lanka**
Pygathrix cinerea (Gray-shanked douc) Vietnam
Rhinopithecus avunculus (Tonkin snub-nosed monkey) Vietnam
Nomascus nasutus (Cao Vit or eastern black-crested gibbon) China, Vietnam
***Hoolock hoolock* (Western hoolock gibbon) Bangladesh, India, Myanmar**
Pongo abelii (Sumatran orangutan) Indonesia, Sumatra

Only the two taxa in Bold types are from our region of South Asia but this doesn't mean anything good for the future of our Asian primate wealth as you will read below.

• *Loris tardigradus nycticeboides* from Sri Lanka (2004 and 2006) was replaced by the Javan slow loris, representing a crisis threatening all the Asian lorises. The massive and crushing trade in them for pets and for commerce in traditional medicines, compounded by widepread forest loss, is causing their rapid decline. The Javan slow loris, representing the plight of all, is evidently the hardest hit of any of the lorisiformes in this respect.

• The Hainan gibbon, *Nomascus hainanus*, was taken off the list, despite the fact the world population of this species numbers less than 20 individuals. Considerable efforts are now underway to protect this species. The closely related eastern black crested gibbon, however, is also extremely threatened. It occurs in a very small region on the Vietnam / China border and numbers are estimated at around 100 in just 18 groups. The remaining few forest patches where it still survives are being destroyed (charcoal, firewood, and clearance for agriculture and pasture).

In the book the section on new species is most interesting. Five of the batch were only recently described of which two are Asian the gray-shanked douc (*Pygathrix cinerea*), the only Asian species of this short was described by Tilo Nadler in 1997 and the Siau Island tarsier (*Tarsius tumpara*) in North Sulawesi, Indonesia that was first described by Myron Shekelle and colleagues in 2008.

Eighty-six species and subspecies of primates have been described in the last two decades only (since 1990) 47 from Madagascar, 10 from Africa, 11 from Asia, and 17 from the Neotropics (statistic current 25 July 2009). Many of them have extremely restricted distributions which is a reason for their late discovery and some are known only from their type localities. Surely they will appear on this list in future as they were found only after their habitat had taken big hits.

In the 2008 IUCN Red List of Threatened Species the status of 634 primate taxa had been assessed with (47.8%) categorized as threatened (Vulnerable, Endangered or Critically Endangered), or 37% of the African primates, 43% of the lemurs, **71% of the Asian primates**, and 40% of the Neotropical primates.

Nearly half of all the world's primates are threatened due to habitat loss and hunting. Threats or other limitations which account for these levels are habitat degradation and loss, the size of the geographic range of the taxon, the area actually occupied by the taxon, fragmentation, including size and degree, extent and form of habitat degradation and the intrinsic resilience of the taxon to fragmentation and degradation. Hunting varies in intensity. Susceptibility to hunting pressure will depend on demographic (life history) variables, on overall population size and the geographic patterns of populations, the degree to which populations are connected, and the ease with which they can be. Hunting and habitat destruction account for the parameters that cause them to make the list of 25 - small numbers, and rapid declines in numbers.

Various lists and tables in the book make the problems of the world's primate come into focus. For example the Table 5 provides summarises threats to each of the Current years' species profiles in this report.

In Asia taxa for the book, the threat report reads:
Tarsius tumpara Low thousands at best Island population (active volcano), very small range (area of occupancy c. 19.4 km²), high human density, hunting for snack food, habitat degradation.
Nycticebus javanicus - Massive trade (traditional medicine and pets), forest loss (agriculture), roads, human disturbance.
Simias concolor c.3,347 Island population, forest loss (human encroachment, product extraction, commercial logging, conversion to cash crops and oil palm plantations), hunting.
Trachypithecus delacouri Less than 320 Restricted range (400-450 km²), fragmented populations (60% occur in isolated populations of less then 20 animals), hunting (primarily for trade in bones, organs and tissues used in traditional medicine).
Trachypithecus p. poliocephalus 60-70 Island population (karst island of 140 km²), seven isolated subpopulations, hunting (primarily for trade in bones, organs and tissues used in traditional medicine).
Semnopithecus vetulus nestor - Forest loss, more than 90% of forest in its range has been lost or fragmented (urbanization and agriculture), dependant on gardens for survival, electrocution (power lines), road kill, dogs, occasional hunting (for pet trade or persecution for crop-raiding).
Pygathrix cinerea 600-700 Restricted range and fragmented population, forest loss (agriculture logging, firewood), hunting, including use of snares.
Rhinopithecus avunculus No more than 200 Restricted range and fragmented population (five isolated localities), forest loss (logging, shifting cultivation), hunting, dam construction (habitat loss and influx of thousands of people, increasing hunting pressure).
Nomascus nasutus c. 110 Very small range (c. 48 km²), habitat loss and disturbance (cultivation, pasture, firewood, charcoal production), fragmented populations (small population effects).
Hoolock hoolock Less than 5,000 Recent very rapid declines in numbers, very fragmented populations (small population effects), forest loss (human encroachment, tea plantations, slash-and-burn cultivation), hunting for food and medicine, and capture for trade.
Pongo abelii c. 6,600 Recent very rapid declines in numbers, restricted and fragmented range (10 fragmented habitat units), habitat conversion and fragmentation (fires, agriculture and oil palm plantations, roads, logging, encroachment), occasional killing as pests or for food, occasional pets.

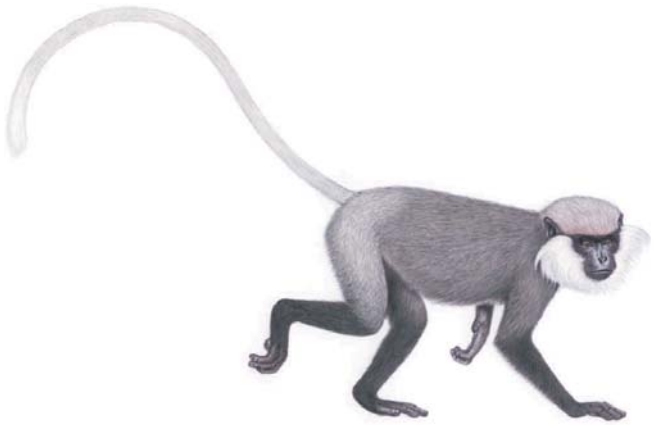
Profiles of the selected Asian taxa can be found in this book also but we will restrict to the two from the South Asian region, e.g. Western Purple-faced Langur and the Western Hoolock Gibbon. The profile for Western Hoolock Gibbon was printed in the earlier "leaking" of the list but in case someone missed it, we are including again.

Western Purple-faced Langur
***Trachypithecus* (*Semnopithecus*) *vetulus nestor* Bennett, 1833**
Sri Lanka (2004, 2006, 2008)

One of the most serious problems facing Sri Lanka's western purple-faced langur (*T. v. nestor*) stems from the fact that it inhabits some of the most densely populated regions of the country. As a result, this endemic monkey's long-term survival is severely threatened by unplanned and haphazard urbanization. A recent survey involving nearly 1,900 km of travel through one-third of *T. v. nestor's* historical range (Hill 1934) showed that nearly 81% of the areas surveyed consisted of deforested and human-dominated landscapes. Another analysis indicated that more than 90% of its entire range has been replaced by houses, home gardens, townships, temples, schools, plantations, commercial operations and other areas of human activity. Deforestation has fragmented and drastically depleted the preferred habitat and principal food sources of the highly arboreal and folivorous *T. v. nestor*.

Within the fragmented and human-dominated landscape, *T. v. nestor* subsists mainly on fruits from home gardens (Dela 2007; Rudran 2007). The nutritional consequences of feeding on a low diversity diet mainly of cultivated fruits are unclear, but likely to be detrimental over the long term, because *T. v. nestor* is adapted to obtain its nutrients and energy from leaves with the help of a highly specialized stomach containing symbiotic bacteria (Bauchop and Martucci 1968). Given these specializations, relying on a diet of fruits instead of leaves may undermine the functioning of this monkey's gut fauna and thereby compromise its ability to absorb nutrients. Furthermore, fruits tend to occur seasonally, which means that *T. v. nestor* may not be able to fully satisfy its energy requirements outside the fruiting season. When such detrimental effects have the potential to affect this langur through most of its range, its long-term survival becomes an issue of serious concern.

Besides depleting *T. v. nestor's* primary food source and preferred habitat, deforestation and fragmentation also cause other problems for this monkey's survival. For instance, when fragmentation forces it to move on the ground, for which it is ill-adapted, people will occasionally capture young individuals to raise them as house pets. While on the ground *T. v. nestor* also runs the risk of being killed by domestic dogs or speeding vehicles. Death by electrocution is another source of mortality when it climbs onto power lines and electricity cables (Parker *et al*. 2008). In some parts of its range *T. v. nestor* is occasionally shot and killed while feeding in home gardens (Dela 2004). Deforestation and fragmentation indirectly lead, therefore, to a host of human-induced fatalities, which reduce group sizes and undermine social organization.



Trachypithecus (Semnopithecus) vetulus nestor

The long-term effect of extensive deforestation resulting in local extinctions was also evident during the recent survey. The western purple-faced langur was seen or recorded as present only in 43% of the sites surveyed in the eastern half of its historical range (N = 23), and 78% of the survey sites in the western half (N = 27). The sites where it was seen or recorded as present were interspersed between areas where it was absent or rare, suggesting the occurrence of local extinctions.

Although facing a perilous future, certain facts revealed during the recent survey indicate that it is still possible to save this monkey from disappearing forever. The largest forests it now inhabits (about 21 km² in all) are found around two reservoirs (Kalatuwawa and Labugama) that supply water to 1.2 million inhabitants of Sri Lanka's capital, Colombo. Because of their importance to people and their size, these forests are the last and most secure strongholds for maintaining viable populations over the long term. The Forest Department responsible for these forests has indicated interest in replanting the pine plantations in them with native species that are exploited by *T. v. nestor*. Such an initiative would certainly increase the extent of *T. v. nestor's* preferred habitat, but it would first require a study of this langur's dietary preferences in the wild, which have yet to be studied.

Another important fact that surfaced during the survey was that the Forest Department has plans to promote forest conservation among communities living around its forests, through environmental education and nature tourism programs. Such programs can help conserve *T. v. nestor*, but to be effective they must be translated into action almost immediately.

Most people living within this langur's range were found to be Buddhists, who have a strong aversion to killing animals. The Buddhist taboo against killing may explain why this monkey has survived for as long as it has in such a densely populated area despite its reputation as an agricultural pest and a nuisance causing damage to roofs of houses and other properties. Sporadic killing does occur, however, as conflict between humans and monkeys intensifies (Nahallage *et al*. 2008), and poverty plagues the lives of the local people. Despite this situation, our survey revealed at least two forested sites around Buddhist monasteries where the incumbents strictly enforced the principles of their faith and protected *T. v. nestor* and other wildlife. Hence soliciting the support of the Buddhist clergy and using cultural traditions to protect wildlife is a real possibility in Sri Lanka.

The above mentioned facts indicate that opportunities still exist for conserving *T. v. nestor*, despite the survival problems of this endangered endemic. The survey led to the development of a comprehensive plan for conserving *T. v. nestor* that includes three initiatives; public education, personnel training, and research. Because of the urgent need for conservation action, some elements of these initiatives were launched immediately after the survey despite the paucity of funds.

The public education initiative was launched at two sites that were identified as important for the long-term conservation of *T. v. nestor*, and targeted rural communities, particularly school children and their parents, living close to them. One site was around the Labugama-Kalatuwawa reservoirs where a viable population of *T. v. nestor* could be maintained over the long term, and the other was an area where humanmonkey conflict was particularly intense. The educational activities at both sites were conducted with the support and participation of local Buddhist temples and clergy, and culminated in a public exhibition of conservation-oriented children's paintings and essays, at which the country's Minister for Environment and his top bureaucrat awarded prizes to the most talented youngsters. These events were publicized via newspaper articles and radio talk-shows to inform a much larger audience throughout the island that efforts to help conserve *T. v. nestor* were supported by the government and influential officials of the country.

The training initiative was launched with a series of activities designed to help a group of six trainees learn about the biology and identification of Sri Lanka's primates, birds and butterflies. Similar workshops dealing with plants, land snails, reptiles, amphibians and invasive species have been scheduled for the future. The primary objective is to train local youth, particularly those living around the Kalatuwawa-Labugama reservoirs, to become well-informed naturalists, who could work independently as nature guides or with us to help conserve *T. v. nestor.*

The research initiative remains dormant for the moment due to a lack of funds, but proposals have been submitted to address this shortcoming. When funds become available, research on *T. v. nestor's* ecology and behavior, particularly its dietary preferences in the wild, will begin, and the work on the public education and training initiatives will be expanded. The battle to win the hearts and minds of people and to help ensure the survival of *T. v. nestor* has only just begun. Much remains to be done, and success can be achieved if this battle is sustained until current trends of deforestation are reversed, and people become more aware of the value of their wildlife.

Rasanayagam Rudran, Kanchana Weerakoon & Ananda Wanasinghe.

Western Hoolock Gibbon
***Hoolock hoolock* (Harlan, 1831)**
Bangladesh, India, Myanmar (2009)

Western and eastern hoolock gibbons were formerly in the genus Bunopithecus as two subspecies. In 2005, Mootnick and Groves placed them in a new genus, Hoolock as two distinct species, the western being *Hoolock hoolock* and the eastern, *Hoolock leuconedys*. The western hoolock gibbon occurs in India, Bangladesh and Myanmar, and the eastern hoolock gibbon in India, Myanmar and China.

The range of western hoolock gibbon is strongly associated with contiguous canopy, broad-leaved, wet evergreen and semi-evergreen forests. *Hoolock gibbons* are important seed dispersers, their diet including mostly ripe fruits, with some flowers, leaves and shoots.

Western hoolock gibbons face numerous threats, and now may be dependent on human action for their survival. Threats include habitat loss due to human encroachment, forest clearance for tea, slash-and-burn cultivation, hunting as food and medicine, and capture for trade. Additional threats include decline in forest quality which affects fruiting trees, canopy cover and the viability of their home ranges. Isolated populations face additional threats arising from intrinsic effects of small populations. Some populations surviving in a few remaining trees are harassed by locals and dogs while attempting to cross clearings between forest patches in search of food.

Hoolock hoolock

Habitat loss over the last 3-4 decades suggests that western hoolock gibbons have declined from more than 100,000 to less than 5,000 individuals (a decline of more than 90%). The contiguous forests have borne the brunt of persistent human impacts. Isolated forest fragments hold a few families of about 1-4 individuals; numbers insufficient for long-term survival. Apart from some border forests between India and Myanmar, the remaining habitat is fragmented, holding minimal populations. The extirpation of western hoolock gibbons from 18 locations between 2001 and 2005 has been documented; ten in India and eight in Bangladesh. About 100 locations of western hoolock gibbons have been recorded in India. In 2005, 77 of those locations had less than 20 individuals, and 47 of these had less than 10. A Population Viability Analysis (PVA) predicted a 75% decline in the population in India and a 95% decline in the population in Bangladesh over the next two decades, based on the current effects of human impacts.

Earlier estimates of western hoolock gibbons in Bangladesh were about 200 in 22 separate locations. Anwar Islam and his team conducted site visits in additional areas since then, and now estimate a total of about 300 individuals comprising 82 groups in 37 sites. In northeastern Bangladesh there are 12 sites with 102 hoolocks. The rest are in 25 sites in the southeast. There may be populations numbering 50-100 individuals in remote areas of the southeast hill tracts, but this has not been confirmed because of inability to visit these sites due to insurgency. During the last 15 or so years, hoolock gibbons have been extirpated from many sites, including Chunati Wildlife Sanctuary in the southeast. The extent of degradation and fragmentation of hoolock gibbon forests in the country is severe and the available habitats are continuing to decline.

The southernmost population of the western hoolock gibbon in Myanmar has been surveyed by Geissmann *et al*. confirming the presence and identification of western hoolock gibbon (*Hoolock hoolock*) in southern Rakhine Yoma, Myanmar, albeit a very small number. Reports of several other surveys in southern Myanmar are pending (Geissmann *et al*. 2008).

There may be much yet to learn about the distribution of the two species of hoolock gibbons. J. Das *et al*. identified the eastern species from Lohit district of Arunachal Pradesh, India, for the first time in 2005. Also, in a study conducted in the early months of 2009, D. Chetry found a new population of *Hoolock leuconedys* of around 150 groups between the rivers Dibang and Lohit in Lower Dibang Valley District of Arunachal Pradesh, India.

Warren Brockelman has carried out surveys of the eastern hoolock, *Hoolock leuconedys* in two accessible protected areas east of the Chindwin River in Myanmar since 2005. Recent studies in Mahamyaing Wildlife Sanctuary, western Myanmar, using auditory sampling of groups, produced an Mittermeier *et al*. estimate of about 6,000 individuals and a mean density of more than 2 groups/km² in areas of suitable forest. Preliminary analysis of a survey by WCS-Myanmar and Wildlife Department personnel farther north in the Hukaung Valley (Kachin State) suggested that thousands of hoolocks survive there also. The Hukaung Valley Wildlife Sanctuary includes the headwaters of the Chindwin River and is contiguous with areas in India. The area of evergreen forest in the Hukaung Valley Reserve and contiguous PAs is so large (more than 20,000 km²) that the population there is likely to be in the tens of thousands. If so, this represents the largest population of hoolocks anywhere. Nevertheless, these PAs are not well protected and it is hoped that current interest in conservation in this multiple-use area will be sustained.

Eastern hoolock gibbons also occur in China. According to Fan Pengfei, a Chinese field biologist, the Chinese eastern hoolock gibbons survive only in Gaoligongshan Nature Reserve (GNR) in Baoshan,Tengchong, and Yingjiang. Based on field surveys, population size in GNR was estimated to be 20-21 groups. There are about 15 groups living outside Gaoligongshan Nature Reserve (based on interviews). The total population size is estimated to less than 150 individuals and is severely fragmented. The largest subpopulation in Yunnan has 8-10 groups; the second largest subpopulation has four groups, and in several sites there are only single groups. Twenty years ago researchers estimated the population size of hoolock gibbons to be less than 200. This was a low estimate due to failure of research to cover all distribution areas. The hoolock gibbon is threatened by poaching in some places and by habitat degradation and fragmentation outside GNR. There are no records of western hoolock gibbons in China to date.

There has been serious concern about the survival of hoolock gibbons for some decades. The species was listed on Schedule I, the highest schedule, on the Indian Wildlife (Protection) Act in 1972. It is

categorized as Endangered on the IUCN Red List. The western hoolock gibbon was designated as one of the top 10 threatened gibbon taxa of the world in a Resolution taken in the gibbon symposium of the Congress of the International Primatological Society at Beijing in 2002.

Hoolock gibbons were assessed along with other South Asian primates at a Conservation Assessment and Management Plan workshop held in Coimbatore in 2002. Participants from northeastern India and Bangladesh assembled detailed locality tables which painted a bleak picture for western hoolock gibbons. Participants recommended that a Population and Habitat Viability Assessment (PHVA) Workshop should be conducted for the species. In 2005, a PHVA workshop was conducted for *Hoolock hoolock* in Dhaka, Bangladesh. Among other recommendations, workshop participants suggested that small, isolated, doomed individuals and groups in degraded areas should be translocated to more supportive habitat within their range.

The level of local knowledge required to conduct successful wild-to-wild translocations needed supplementation, so a collaborative initiative between GOs and NGOs in India and Bangladesh for scoping and training in translocation was organized. Two workshops, held in September 2008 for all stakeholders from India and Bangladesh, and February 2009 for senior foresters or their representatives from India generated a great deal of interest as well as a new awareness of the subtleties of such an exercise. Tentative plans were made for each state at the workshop. Arunachal Pradesh has taken the initiative and engaged the Wildlife Trust of India to assist them with an exercise for several isolated groups in an agricultural field in the state. Other northeastern Indian states and Bangladesh are also considering conducting carefully planned and executed translocations. The CAMP, PHVA and translocation training workshops also generated considerably more public awareness activities on hoolock gibbon that are now taking place very regularly, which will be useful also to the translocations when they occur.

There are hundreds of western hoolock gibbons languishing as single individuals or in minute groups in the northeastern Indian states and in Bangladesh. Successfully translocating these to more viable locations in nearby larger areas with resident, established hoolock populations will not only enrich the gene pool and strengthen populations but also salvage animals and their genetic material that would not otherwise survive even a very few years. Such an exercise will also provide a platform with a remarkable profile for enhancing protection as well as for reclaiming and restoring forest patches to create more contiguous habitat for hoolocks. It should also create good will and interest by the public, whose cooperation is necessary for long-term success. However, such exercises should be undertaken with strict adherence to the IUCN/SSC Reintroduction Specialist Group (RSG) reintroduction guidelines. They should also be a "last resort", after exploring all other means of conserving both habitats and species, working with locals in the current areas.

The population trends for the western hoolock gibbon observed over recent years in Bangladesh and northeastern India indicate a very rapid decline in numbers for which very little has been done in the way of mitigation. Immediate measures are required by governments, forest departments, local communities and NGOs to limit habitat destruction, initiate or improve habitat restoration and upgrade implementation of protective measures. Although there are indications of increased numbers in this report, it is only because more localities or areas are being visited and found to have hoolock gibbons sometimes in significant numbers. This should not, in any way, lead to complacency but to greater efforts to see that the threats which have plagued the hoolock gibbon in the past 3-4 decades are addressed and contained.

Sally Walker, Sanjay Molur, Warren Y. Brockelman, Jayantha Das, Anwarul Islam, Thomas Geissmann & Fan Peng-Fei.

On the IUCN SSC Primate Specialist Group website http://www.primate-sg.org/T25full07.htm you can find a gallery of small head images linking to each individual profiles of the Top 25 primates. Also the full report on Primates in Peril: 2008-2010 is downloadable as a PDF (14.4 MB). The report is also available in the Vol. XXIV, Number 12, December 2009 edition of the ZOOS' PRINT. We encourage you to dip into this imminently readable report on our closest kin and their scant chances of survival as species unless governmental, non-governmental, academic, and laypersons responsible fo this world take this impending or perhaps ongoing crisis a great deal more seriously.

This article was summarized by Sally Walker from the report on Primates in Peril: 2008-2010 by Mittermeier, *R. A., Wallis, J., Rylands, A. B., Ganzhorn, J. U., Oates, J. F., Williamson, E. A., Palacios, E., Heymann, E. W., Kierulff, M. C. M., Long Yongcheng, Supriatna, J., Roos, C., Walker, S., Cortés-Ortiz, L. and Schwitzer, C. (eds.). 2009. Primates in Peril: The World's 25 Most Endangered Primates 2008 –2010. IUCN/SSC Primate Specialist Group (PSG), International Primatological Society (IPS), and Conservation International (CI), Arlington, VA. 84pp.*